

REMARKS

Claims 1-3 and 5-20 were examined and reported in the Office Action. Claims 1-3 and 5-20 are rejected. Claims 1-3 and 5-20 remain.

Applicant requests reconsideration of the application in view of the following remarks.

I. 35 U.S.C. § 103(a)

It is asserted in the Office Action that claims 1-3 and 5-20 are rejected in the Office Action under 35 U.S.C. § 103(a), as being unpatentable over U.S. Patent No. 6,414,669 issued to Masazumi ("Masazumi") in view of U.S. Patent No. 6,373,457 issued to Kim et al. ("Kim"). Applicant respectfully disagrees.

According to MPEP §2142 "[t]o establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." (In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)). Further, according to MPEP §2143.03, "[t]o establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." "*All words in a claim must be considered* in judging the patentability of that claim against the prior art." (In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970), emphasis added).

Applicant's claim 1 contains the limitations of "[a] method of driving an LCD, comprising (i) providing an array of pixels; (ii) providing cholesteric liquid crystals arranged between spaced transparent substrates; and (iii) providing a reset pulse and a

plurality of selection pulses, the reset pulse selected from a group consisting of a pipeline and non-pipeline arrangement whereby to provide resultant driving waveform(s), wherein there is a multiplex addressing driving waveform."

Applicant's claimed invention includes multiple selection phases and multiplex address driving waveforms to provide a darker focal conic state and more freedom in gray scale generation and optical contrast ratio.

Masazumi discloses a method for driving a liquid crystal display (LCD) having a liquid crystal layer exhibiting a cholesteric phase. Masazumi does not address the problem of power dissipation nor that reduction in voltage requirements are required or even desired. Further, Masazumi does not teach, disclose or suggest overcoming the problem with grey scale. Moreover, Masazumi does not teach, disclose or suggest a driving scheme having a reset pulse and a plurality of selection pulses as seen by Figure 25 and 31 illustrating one select pulse in each line (each row waveform). This is distinguishable from Applicant's claimed plurality of selection pulses.

Applicant's Figures 7 and 8 illustrate the plurality of selection pulses in each row waveform. The row waveform includes a reset pulse and a select pulse. A select is followed by smaller deselect signals. A person of ordinary skill in the art would recognize that a select pulse is a pulse of larger voltage used to control the state of a pixel (i.e., bright or dark). Deselect signals are well known in the art (see Masazumi, column 11). As deselect pulses are smaller, in the sake of clarity, Applicant has not illustrated the deselect signals in the figures.

Kim discloses a driving method for a LCD using liquid crystal having a bistable twisted nematic property to realize DC Free. Kim further discloses using a multiple address driving waveform. Kim does not teach, disclose or suggest combining multiple selection phases and multiplex address driving waveforms to provide a darker focal conic state and more freedom in gray scale generation and optical contrast ratio. Further, there are no teachings or suggestions addressing the problems with grey scale as recognized by Applicant's claimed invention.

Moreover, the waveform disclosed in Kim is distinguishable in that one complete driving waveform consists of two frames (see Kim, column 2, lines 30-35). The first frame signal is the row waveform including one reset pulse and one selection pulse. (Kim, column 2, lines 37-40). The second frame signal is merely a reverse polarity of the first frame signal. Therefore, in Kim it is disclosed that the sequence is reset – select inverted reset – inverted select. In Applicant's claimed invention, however, a driving waveform is provided by one reset pulse and a plurality of selection pulses.

If the teachings of Masazumi and Kim were combined, the resulting invention would still not teach, disclose or suggest all of Applicant's claimed limitations, as listed above. Further, to take the multiple driving waveform of Kim and combine it with the device disclosed by Masazumi would not make sense as power dissipation is not mentioned as a problem in Masazumi, nor was it taught or suggested that a reduction in voltage requirements is required or desired. And, a combination of Masazumi and Kim would still not address the problems with grey scale as recognized by Applicant's claimed invention. Additionally, if the frame inversion driving scheme of Kim were combined with the single reset pule and single selection pulse of Masazumi, the result would be a driving waveform of two reset pulses having a sequence of reset – select – invert reset – invert select. This pulse sequence, however, effectively provides only one selection pulse as the optical performance after the first select pulse is erased by the reset pulse of the second select pulse. That is, the optical performance history after the first select signal will have no effect on the optical performance after the completion of the entire waveform sequence.

The resulting combination simply does not disclose, teach or suggest “[a] method of driving an LCD, comprising (i) providing an array of pixels; (ii) providing cholesteric liquid crystals arranged between spaced transparent substrates; and (iii) providing a reset pulse and a plurality of selection pulses, the reset pulse selected from a group consisting of a pipeline and non-pipeline arrangement whereby to provide resultant driving waveform(s), wherein there is a multiplex addressing driving waveform.”

Since neither Masazumi, Kim, nor the combination of the two disclose, teach or

suggest all the limitations contained in Applicant's claim 1, as listed above, there would not be any motivation to arrive at Applicant's claimed invention. Thus, Applicant's claim 1 is not obvious over Masazumi in view of Kim since a *prima facie* case of obviousness has not been met under MPEP §2142. Additionally, the claims that directly or indirectly depend from claim 1, namely claims 2-3 and 5-20, would also not be obvious over Masazumi in view of Kim for the same reason.

Accordingly, withdrawal of the 35 U.S.C. § 103(a) rejections for claims 1-3 and 5-20, are respectfully requested.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending, namely claims 1-3 and 5-20, are in condition for allowance and such action is earnestly solicited at the earliest possible date. If there are any fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666. If a telephone interview would expedite the prosecution of this Application, the Examiner is invited to contact the undersigned at (310) 207-3800.

PETITION FOR EXTENSION OF TIME

Per 37 C.F.R. 1.136(a) and in connection with the Office Action mailed on TUESDAY, SEPTEMBER 30, 2003, Applicant respectfully petitions Commissioner for a three (3) month extension of time, extending the period for response to TUESDAY, MARCH 30, 2004. The Commissioner is hereby authorized to charge payment to Deposit Account No. 02-2666 in the amount of \$950.00 to cover the petition filing fee for a 37 C.F.R. 1.17(a)(3) large entity. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR, & ZAFMAN

By: _____

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Dated: March 30, 2004

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail with sufficient postage in an envelope addressed to: Mail Stop Fee Amendments, Commissioner for Patents, P. O. Box 1450, Alexandria, Virginia 22313-1450 on March 30, 2004.

Jean Svoboda